

1 Scope

This document outlines the process for developing Standards and Recommended Practices documents for the Motion Imagery Standards Board (MISB) community. The intent is to: 1) define the process that begins with a recognized need for such a document through final document publication; 2) streamline the development and delivery of documentation to the community; 3) provide sufficient expertise and review of produced documents so that the final product is accurate, consistent with existing MISB guidelines, and useful. Finally, the process for updating/retiring requirements is described.

2 References

2.1 Informative References

- [1] EARS (Easy Approach to Requirements Syntax)”, *Proceedings of the 2009 17th IEEE International Requirements Engineering Conference* Mavin, A., Wilkinson, P., Harwood, A., and Novak, M., IEEE, 2009, pp. 317-322
- [2] MISB Document Author Kit, Oct 2013

3 Process Role Definitions

| | |
|--------------------------|--|
| Approver | A MISB Core Team member who either approves or provides written feedback to the author(s). |
| Author | An expert in the given subject matter and who: leads the development of the document through approval; commits the time to produce a final document; co-operates with others to expedite the process. |
| Technical Lead | A subject matter expert who provides technical support to the author(s) by attending TEMs, performing needed due diligence, and acts as a sounding board in the development of a document’s content. |
| Document Reviewer | A Standard or Recommended Practice produced by the MISB. A person who commits time (generally within a two week period of review) to provide document review and issue written feedback to the author(s). |
| Sponsor | A person, organization or entity who requests a new MISB document. |

4 Revision History

| Revision | Date | Summary of Changes |
|----------|------------|---|
| 2.0 | 04/10/2015 | <ul style="list-style-type: none"> Added process for numbering the MISP and its supporting documents |
| 3.0 | 05/20/2015 | <ul style="list-style-type: none"> Reference added to document development form (appendix) |

5 Document Development Process

5.1 Goals

- Transparency – Notify community on the status of ongoing documentation development through email.
- Consistency – Conform documents to a common format including requirements written according to the EARS [1] recommendations.
- Consensus Agreement – Approve documents through consensus of the MISB community independent of a MISB Forum: all documents are briefed at the next available MISB Forum.
- Timely – Ensure timely delivery of guidance and enable the approval/publication of documents independent of the MISB Forum cycle.
- Integration into MISP Functional Model – Align all MISB documents to the MISP (Motion Imagery Standards Profile) Functional Model to facilitate uniformity, clarity and simplicity.

5.2 Document Development Process Overview

The Document Development Process is initiated by a need for new guidance in the community. In the Assessment phase, such new guidance is brought to the attention of the MISB through a request by a Sponsor; that is a person, organization, or entity that desires a new Standard or Recommended Practice. A Sponsor could represent the government, commercial, or other industry sector. The request is assessed for its merit, the need in the community, and the schedule and resources required for the development process. The Development phase begins with the formation of a MISB Action Team that performs any relevant background research, vets various solutions, drafts the document, and hosts one or more independent reviews. Once the Development phase is completed, the Approval phase begins with a request for the community to review the draft document. Once the community approves the draft document, the document is submitted to the NGA Architecture Standards Board (NASB) for publishing on behalf of NGA.

Figure 5-1 illustrates the Document Development process divided into three separate phases:

- Assessment
- Development
- Approval

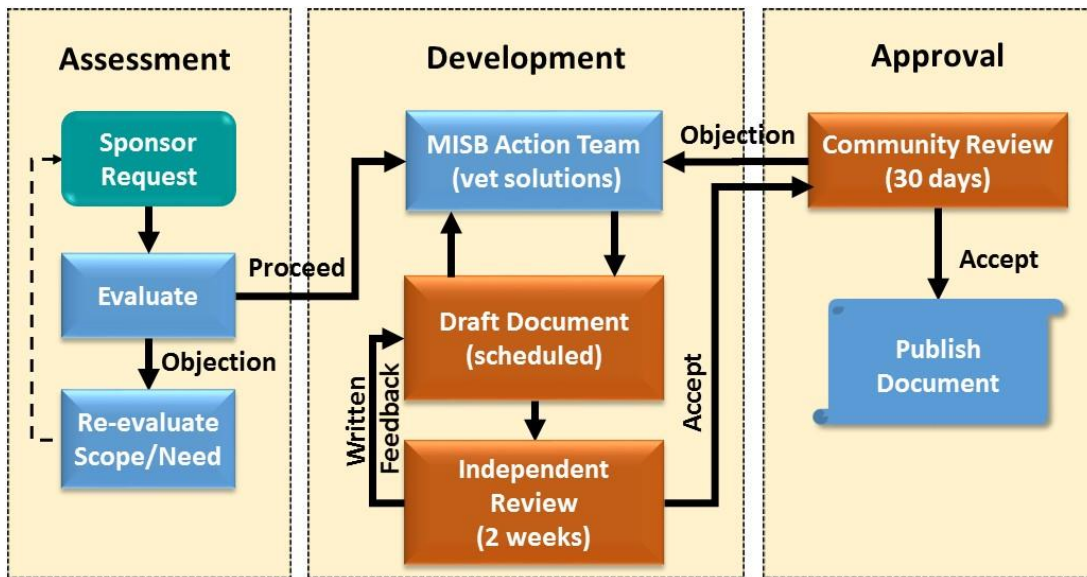


Figure 5-1: MISB Document Development Process

5.3 Roles

For the Document Development Process to function, various groups and individuals have roles and responsibilities.

5.3.1 NGA Architecture Standards Board

The NASB coordinates all standards activities taking place within NGA, addressing those standards that are required to achieve the desired capabilities in NGA's systems development efforts. In addition to resolving issues related to GEOINT standards, the NASB also addresses issues related to other standards relevant to the NSG architecture, such as IT and security standards. Once the NASB approves a document, it can be officially published for use with the full backing of the GEOINT Functional Manager.

5.3.2 MISB Core Team

The MISB Core Team is directly funded by the government to lead MISB standards-related activities. The MISB Core Team first reviews and assesses a Sponsor's request for a document as to its purpose, importance, and consistency with existing MISB Standards and practices. Should the document scope be unclear, the MISB Core Team submits its concerns to the Sponsor, so a more appropriate document scope may be drafted. Once the MISB Core Team approves a request for a new document, the MISB Core Team oversees the document evolution through its various stages of development.

5.3.3 MISB

The MISB is the collective group of MISB Core Team, DoD/IC, contractors, commercial vendors, academia, NATO partners all who have a vested interest in capability-based Motion Imagery interoperability.

5.3.4 MISB Forum

The MISB holds a MISB Forum three times per year. The MISB Forum is open to any party interested in the activities of the MISB. Documents approved prior to a MISB Forum are briefed to the community at that time.

5.3.5 MISB Action Team

A MISB Action Team is an ad hoc group composed of one or more Authors and one or more Technical Leads. A MISB Core Team member assists in establishing, coordinating, and managing the MISB Action Team. The MISB Action Team is responsible for creating a document schedule, an initial draft of the document, integrating revisions based on comments and feedback, and producing a final document to be submitted to the NASB for official NGA publication. The schedule guides development activities of the MISB Action Team and oversight by the MISB Core Team to ensure the process is completed.

A document development information form developed as an aid in the formation of a MISB Action Team is provided in the Appendix (section 7). This form is to be submitted to the MISB Core Team for review and approval for the development of a new document.

5.3.6 Author

Once a request for a new document is approved by the MISB Core Team, it enters the Development phase. One or more Authors, who are subject matter experts in the domain of the documents content, are enlisted to author the document. In cases where there may be competing interests for the role of Author, the MISB Core Team chooses an appropriate Author. It is recommended there be a limit of three authors; this affords timely delivery of the document. Authors have the largest time commitment because they are doing the majority of the writing and coordinating with the technical leads.

The Author performs a key role in this process. The Author defines the document delivery schedule, initiates the document drafting cycle, manages the drafting process, and coordinates with the technical leads who serve to provide expertise and additional supporting guidance.

5.3.7 Technical Lead

A Technical Lead works in concert with the Author(s) and other Technical Lead(s) to supply the best and most accurate guidance possible. Typically, Authors facilitate TEMs (Technical Exchange Meeting) with the Technical Leads to address options and pose solutions. Technical Leads may be asked to research key topics that may align with their area of expertise. Technical Leads are continually reviewing changes to the document throughout its Development stage.

5.3.8 Reviewer

Once a draft document is completed, it is subjected to an Independent Review by the Reviewers. A Reviewer is a subject matter expert who participates in the Independent Review stage to review and provide an assessment of the draft document before it is forwarded to the Approval stage. The Reviewers are purposely not included in the Draft Document stage so they can review the material without bias. Reviewers provide written feedback to the Authors and Technical Leads with an indication if the document should continue onto the Approval phase.

5.3.9 Approver

An Approver is a MISB community stakeholder, MISB Core Team member, or any interested party who participates in approving a document. In the interest of maintaining the schedule Approvers are asked to sign up with the MISB Core Team at least two (2) weeks before the Approval phase is scheduled to end. At the completion of their review, an Approver acknowledges acceptance/approval of the document, provides written editorial comments, or provides a written objection. All comments received from non-registered reviewers and those outside the allotted two-week period are considered for a future version of the document.

5.4 Document Development Process Details

The following Sections describe the three stages of the document development process. Each stage accumulates metrics used to keep track of progress and other statistics.

5.4.1 Assessment Phase

The purpose of the Assessment phase is to answer the following questions:

- 1) Validity – Is the request valid (i.e. does the request constitute a new/revised document)?
- 2) Priority – How critical is it compared to other activities?
- 3) Timeframe – How long will it take (i.e. does it demand a small, medium or large effort)?
- 4) Estimate of resources needed (i.e. Authors, Technical Leads and Reviewers)

Metrics: number of requests, dates, and number of documents approved for development.

5.4.2 Development Phase

The heart of the Document Development Process is the MISB Action Team. Its role is to establish a credible and accurate document that meets the needs set forth in the document scope. A MISB Action Team is composed of Author(s), Technical Lead(s) and Reviewers. Generally, these are volunteers from the MISB community with the requisite knowledge needed to craft the document content, the expertise to properly evaluate the document, and stakeholders who stand to use the document. A MISB Action team composed of Authors and Technical Leads should be limited to five. This facilitates a more focused and timely delivery of the document. A MISB Author Kit [2], available on the MISB website, provides a framework for formatting a document.

Metrics: Schedule durations, number of volunteers, number of revisions, etc.

5.4.3 Approval Phase

The Approval phase includes a potentially large number of Approvers. Following the completion of the final draft document by the MISB Action Team, the document is posted on the MISB website with an announcement emailed to the community indicating the document is ready for review and approval. The announcement triggers a 30 day review/approval period. At this same time, it is submitted to the NASB for approval to publish. Feedback from an Approver shall be received in writing during the 30 day period. Feedback that warrants changes to the document are made.

Following the 30 day review and approval period, the final document – revised if changes are necessary and approved by the NASB – is published on the MISB website. In some cases, a document may be posted for review and comment only. These are designated as such.

Metrics: Number of reviewers, number of yes/no votes and editorial comments.

Figure 5-2 summarizes the document development process.

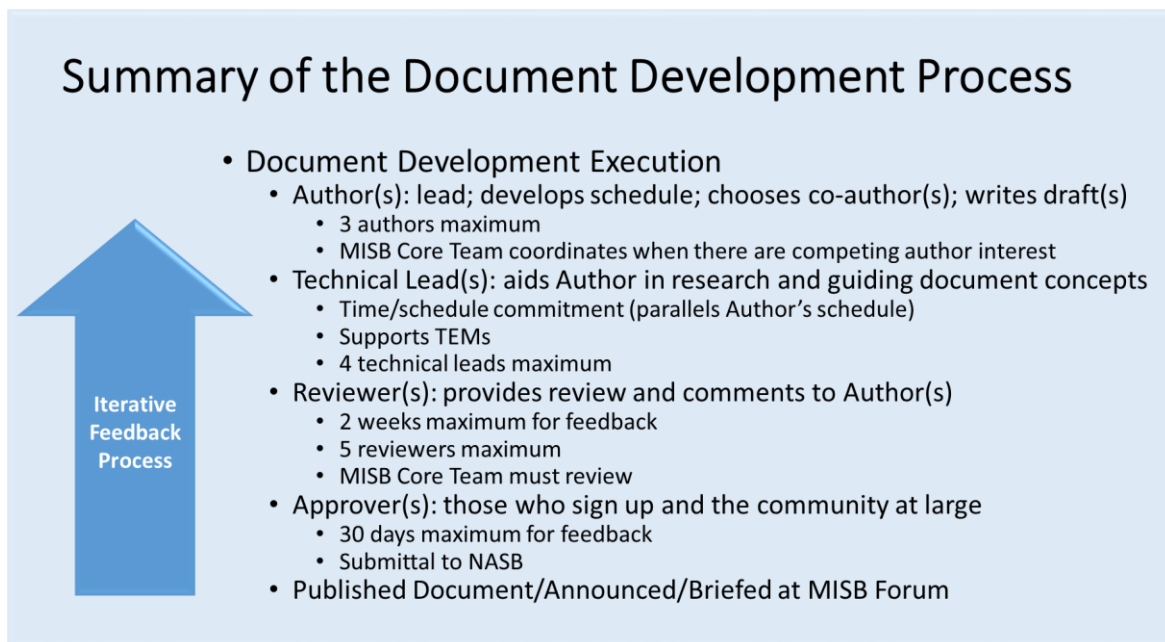


Figure 5-2: Document Development Process

After a successful Approval phase, the Author(s) (or MISB Core Team designate) provides an overview of the new document at the subsequent MISB Forum.

5.5 MISB Author Kit

A MISB Document Author Kit [2] supports the drafting of MISB documents. The Document Author Kit is a Microsoft Word template complete with instructions for properly formatting a MISB document. Authors use this template making every effort to adhere to the predefined styles. The template specifies a unique font for document requirements; this affords ready extraction of all requirements using a macro tuned to extract this particular font.

When authoring a document all stated requirements (those sentences with a “shall”) are to be represented as shown in the template, and be written in one of the EARS (Easy Approach to Requirements Syntax) [1] patterns indicated in Table 1.

Table 1: EARS Patterns

| Pattern | Use | Example |
|--------------------------|--|---|
| Ubiquitous | The <system name> shall <system response> | The phone shall have a microphone. |
| Event-driven | When <trigger>, the <system> shall <system response> | When a button is pressed the keypad shall illuminate. |
| State-driven | While <in a state>, the <system> shall <system response> | While the phone is muted, the mute button light shall be turned on. |
| Unwanted behavior | If <unwanted trigger>, then the <system> shall <system response> | If 4G network is lost, then the phone shall switch to 3G/EDGE without dropping calls. |
| Optional | Where <feature>, the <system> shall <system response> | Where Wi-Fi is available, Wi-Fi shall be used for IP data. |
| Complex | (multiple patterns) | If all networks are lost while a call is being placed, the screen will display a warning message. |

Examples of requirements written in EARS:

| Requirement | |
|----------------|--|
| ST 1304.1 - 01 | MISB documents shall use EARS [1] patterns for all stated requirements. |
| ST 1304 .1- 02 | MISB documents shall use the MISB Author Document Kit [2] for all documents. |

5.6 Requirements Numbering

5.6.1 ST and RP

The format for writing a requirement is as shown above. The requirement header box is formatted in Calibri 12 pt. font and the requirement text is formatted in Cambria 11 pt. font. The requirement text font is specifically chosen to be different from the body text of the document; this is to facilitate extraction of the requirements via a macro designed to list all the requirements in a separate document.

The process for managing a requirement is as follows:

5.6.1.1 Naming a Requirement

- The document type, for example ST for Standard and RP for Recommended Practice is followed by the document number including its version and a requirement number. For example, ST 1204.2-01, RP 0811.1-01. Figure 5-3 provides a template. The first two digits in the number represent the last two digits of the year the document is initiated i.e. 12 for year 2012. Digits 3 and 4 represent the newest document introduced in a given year. Thus, the first document in a year is labelled 01, the next 02, and so forth.
- In a documents initial publication the requirements are numbered sequentially in increasing order. This may change through the lifetime of a document.

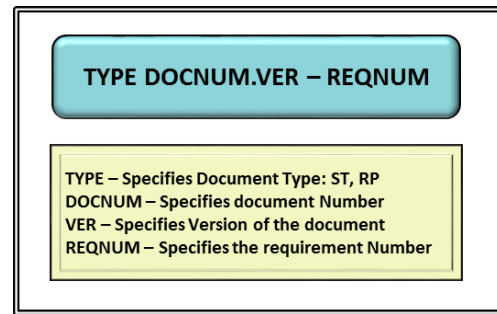


Figure 5-3: Requirement Naming

5.6.1.2 Rules for Requirement Name Management

- When an existing requirement is modified (and approved by the MISB Core Team) the version number in its name is changed to match the current version of the document. This is the only time that a requirement name changes.
- Requirement numbers are never reused. Should a new requirement be introduced it will be assigned a number one greater than the highest number in the document. Should a requirement be deleted a gap in the number sequence of the requirements will occur.
- Requirements that are deleted are moved to an appendix in the document. In a subsequent revision of the document previously deleted requirements listed in the appendix are removed entirely from the document.
- All references cited within the text of a requirement are to be denoted with their version number. For example, “Metadata shall conform to MISB ST 0107.1 [ref_num].”

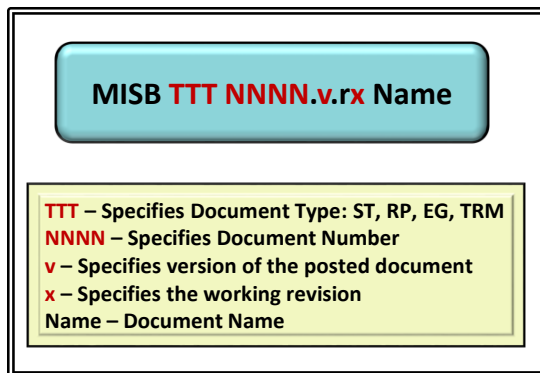
5.6.2 MISP

The rules for managing the requirements in the MISB are the same as for ST and RP; however, the naming convention for a requirement is different. The name of a MISB requirement will have the document name, MISB, followed by its year of publication with its version number. For example:

| Requirement | |
|------------------|------------------------|
| MISP 2015.1 - 01 | Text of requirement 01 |
| MISP 2015.1 - 02 | Text of requirement 02 |

5.7 ST, RP Document Numbering

For document drafts and revision tracking the following nomenclature in Figure 5-4 is used:



Examples:

MISB ST 1401.2.r1 Working Draft

MISB ST 1401.2 Approved Document

MISB RP 1503.0.r3 Working Draft

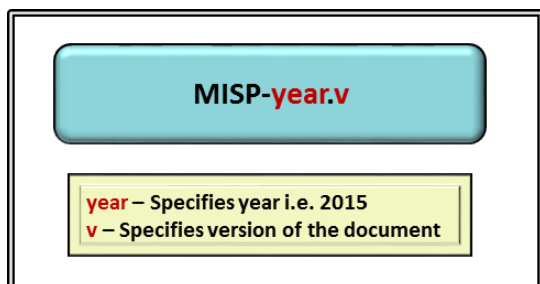
MISB RP 1503 Approved Document

Figure 5-4: Document Numbering

A document that change status, such as in promoting an RP to ST maintains the successive version numbering convention. As an example, for an initial release of document RP 2004, the document is named ST 2004.1 when moved to a Standard. The document, as posted on the MISB website, does not include the revision information; for example, “MISB ST 1401.2.r1 Document Name” is posted as “MISB ST 1401.2 Document Name” with the .r1 designation removed.

5.8 MISP Revisions & Supporting Document Numbering

The MISP is typically revised at each MISB Forum, which occurs periodically during a year. The nomenclature for numbering the MISP is shown in Figure 5-5:



Examples:

MISP-2015.1

MISP-2015.2

MISP-2016.1

Figure 5-5: MISP Numbering

Support documents such as the MISP Governance, MISP U.S. Specific, and Motion Imagery Handbook follow a similar naming convention.

6 Document Lifecycle

Figure 6-1 shows the naming convention of a document when in a particular phase of its lifecycle. The process for a Developing document was described previously.

Once approved a document may remain in the Approved stage as long as it remains relevant. A document deemed to be superseded by newer technology or replaced by improved guidance will be deprecated and be moved to the Deprecated stage. A document in the Deprecated stage, however, may describe technology in use for some period of time until such technology can be upgraded. Deprecated documents that are no longer useful or contain significant obsolete or erroneous information shall be moved to the Retired state.

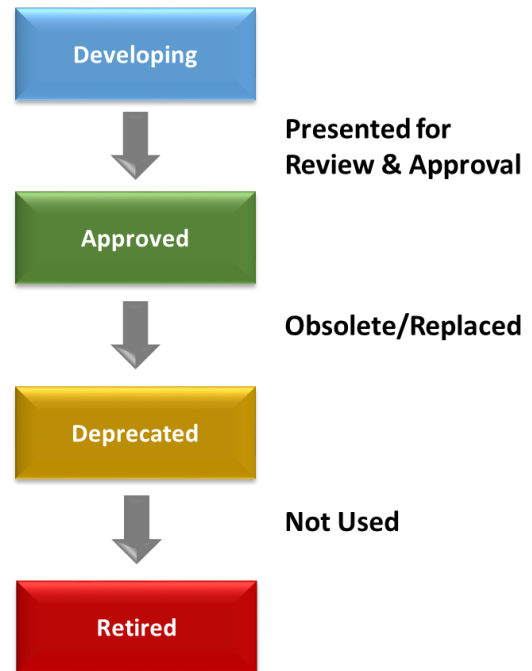


Figure 6-1: Document Stages (if warranted)

7 Appendix

The following informational form must be completed and submitted to the MISB Core Team for any new document to be developed by a MISB Action Team:

| | |
|------------------------------|---|
| Document Title: | |
| Document Type: | ST <input type="checkbox"/> RP <input type="checkbox"/> TRM <input type="checkbox"/> |
| Date of Submission: | |
| Document Description: | |
| | |
| Document Schedule: | Start Date: Desired Approval Date: |
| MISB Team Review | Accepted <input type="checkbox"/> Rejected <input type="checkbox"/> |
| Comments | |
| Author(s) | Lead Author: |
| | Co-Author 1: |
| | Co-Author 2: |
| Technical Lead(s) | 1) |
| | 2) |
| | 3) |
| Reviewer(s) | 1) |
| | 2) |
| | 3) |